Journal of Engineering Physics and Thermophysics 2016 vol.89 N5, pages 1344-1348

Computer Simulation of the Elastic Properties of Titanium Alloys for Medical Applications

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Abstract

© 2016, Springer Science+Business Media New York.Results of a computer simulation of the elastic properties of α+β- and β-titanium alloys, used for medical purposes, within the framework of the molecular-dynamics method are presented. It is shown that β-titanium alloys are best suited for the use as bone implants because of their small moduli of elasticity. The advisability of the use of the molecular-dynamics method for the study of the elastic properties of titanium alloys, serving as bone implants, is demonstrated.

http://dx.doi.org/10.1007/s10891-016-1498-1

Keywords

MedeA-LAMMPS, modulus of elasticity, molecular dynamics, titanium alloys of medical application